Claims

We claim:

1   1. A language database structure, comprising:

2   a descriptor database structure including at least one descriptor, at least one descriptor

3   value for each descriptor wherein each descriptor value is expressed in a language, and a

4   language identifier for each descriptor value wherein the language identifier identifies the

5   language.

10   2. The language database structure of claim 1, wherein the language identifier is selected from

2   the group consisting of a language name and a language symbol.

1   3. The language database structure of claim 1, wherein the language identifier is a language

2   pointer.

1   4. The language database structure of claim 1, wherein a first descriptor of the at least one

2   descriptor has N_1 descriptor values, wherein a second descriptor of the at least one descriptor has

3   N_2 descriptor values, and wherein N_1 is unequal to N_2.

1   5. The language database structure of claim 1, wherein the at least one descriptor, the at least one

2   descriptor value for each descriptor, and the language identifier for each descriptor value are

3   stored in a table.

1   6. The language database structure of claim 1, wherein the at least one descriptor and the at least

2   one descriptor value for each descriptor are stored in a first table, and wherein the at least one

3   descriptor value for each descriptor and the language identifier for each descriptor value are

4   stored in a second table.

1   7. The language database structure of claim 1, wherein the descriptor database structure

2   comprises a table having a name that includes the language identifier, wherein descriptors and

3   associated descriptor values expressed in the language are stored in the table, and wherein the

4   table does not include a descriptor value expressed in another language that differs from the

5   language.

1   8. The language database structure of claim 1, further comprising a user database structure

2   including at least one user identifier which identifies a user, and a preferred language identifier

3   which identifies a preferred language of the user.

1   9. The language database structure of claim 8, wherein the preferred language identifier is

2   selected from the group consisting of a preferred language name and a preferred language

3   symbol.

1   10. The language database structure of claim 8, wherein the preferred language identifier is a

2   preferred language pointer.

1   11. The language database structure of claim 10, wherein the preferred language pointer points to

2   the preferred language.

1   12. The language database structure of claim 10, wherein the preferred language pointer points to

2   an algorithm which executes program steps that determines the preferred language.

1   13. The language database structure of claim 8, further comprising a replacement language

2   database structure, wherein the replacement language database structure expresses a replacement

3   language as a function of the preferred language.

1   14. The language database structure of claim 1, further comprising an application database

2   structure which includes:

3   at least one output descriptor, wherein each output descriptor appears as a descriptor

4   within the descriptor database structure; and

5   an output zone of an output medium associated with each output descriptor.

1   15. The language database structure of claim 14, wherein the output medium includes a screen

2   display, and wherein each output zone identifies a portion of the screen display.

1   16. The language database structure of claim 15, wherein each output descriptor is of an output

2   type selected from the group consisting of a screen title, a prompt, a help text, an error message,

3   an instruction message, and an informational message.

1   17. The language database structure of claim 14, wherein the output medium includes a printed

2   page, and wherein each output zone identifies a portion of the printed page.

1   18. A method of generating a language-specific output structure on an output medium,

2   comprising the steps of:

3   providing a descriptor database structure including at least one descriptor, at least one

4   descriptor value for each descriptor wherein each descriptor value is expressed in a language, and

5   a language identifier for each descriptor value wherein the language identifier identifies the

6   language;

7   determining a user identifier of a user;

8   identifying a preferred language based on the user identifier;

9   determining at least one output descriptor and associating with each output descriptor an

10   output zone of the output medium, wherein each output descriptor appears as a descriptor within

11   the descriptor database structure;

12   generating a descriptor value for each output descriptor, by utilizing the preferred

13   language and the descriptor database structure; and

14   transferring the descriptor value for each output descriptor to the associated output zone

15   of the output medium.

1   19. The method of claim 18, wherein the language identifier is selected from the group consisting

2   of a language name and a language symbol.

1   20. The method of claim 18, wherein the language identifier is a language pointer.

1   21. The method of claim 18, wherein a first descriptor of the at least one descriptor has N_1

2   descriptor values, wherein a second descriptor of the at least one descriptor has N_2 descriptor

3   values, and wherein N_1 is unequal to N_2.

1   22.The method of claim 18, wherein the step of providing a descriptor database structure

2   comprises providing a table which includes the at least one descriptor, the at least one descriptor

3   value for each descriptor, and the language identifier for each descriptor value.

1   23. The method of claim 18, wherein the step of providing a descriptor database structure

2   comprises:

3   providing a first table which includes the at least one descriptor and the at least one

4   descriptor value for each descriptor; and

5   providing a second table which includes the at least one descriptor value for each

6   descriptor and the language identifier for each descriptor value.

1   24. The method of claim 18, wherein the step of providing a descriptor database structure

2   comprises providing a table having a name that includes the language identifier, wherein the

3   table includes the descriptors and the associated descriptor values which are expressed in the

4   language, and wherein the table does not include a descriptor value expressed in another

5   language that differs from the language.

1   25. The method of claim 18, wherein the step of determining a user identifier includes prompting

2   the user for information from which the user identifier may be ascertained.

1   26. The method of claim 18, wherein the step of identifying a preferred language comprises

2   identifying a preferred language identifier from a user database structure, said preferred language

3   identifier being used to identify the preferred language, and said user database structure

4   including:

5   a list of user identifiers, said list including the user identifier of the user; and

6   a preferred language identifier associated with each user identifier.

1   27. The method of claim 26, wherein the preferred language identifier is selected from the group

2   consisting of a preferred language name and a preferred language symbol.

1   28. The method of claim 26, wherein the preferred language identifier includes a preferred

2   language pointer.

1   29. The method of claim 28, wherein the preferred language pointer points to the preferred

2   language.

1   30. The method of claim 28, wherein the preferred language pointer points to an algorithm which

2   executes program steps that determines the preferred language.

1   31. The method of claim 26, further comprising providing a replacement language database

2   structure, said replacement language database structure expressing a replacement language as a

3   function of the preferred language.

1   32. The method of claim 18, wherein the step of determining at least one output descriptor and

2   associating with each output descriptor an output zone of the output medium comprises

3   providing an application database structure which includes:

4   the at least one output descriptor, wherein each output descriptor appears as a descriptor

5   within the descriptor database structure; and

6   the output zone of the output medium associated with each output descriptor.

1   33. The method of claim 18, wherein the output medium includes a screen display, and wherein

2   each output zone identifies a portion of the screen display.

1   34. The method of claim 33, wherein each output descriptor is of an output type selected from

2   the group consisting of a screen title, a prompt, a help text, an error message, an instructional

3   message, and an information message.

1   35. The method of claim 18, wherein the output medium includes a printed page, and wherein

2   each output zone identifies a portion of the printed page.

1   36. A language-specific output structure, comprising an output medium and descriptor values on

2   the output medium, wherein the descriptor values are placed on the output medium by a process

3   comprising the steps of:

4   providing a descriptor database structure including at least one descriptor, at least one

5   descriptor value for each descriptor wherein each descriptor value is expressed in a language, and

6   a language identifier for each descriptor value wherein the language identifier identifies the

7   language;

8   determining a user identifier of a user;

9   identifying a preferred language based on the user identifier;

10   determining at least one output descriptor and associating with each output descriptor an

11   output zone of the output medium, wherein each output descriptor appears as a descriptor within

12   the descriptor database structure;

13   generating a descriptor value for each output descriptor, by utilizing the preferred

14   language and the descriptor database structure; and

15   transferring the descriptor value for each output descriptor to the associated output zone

16   of the output medium.

1   37. The output structure of claim 36, wherein the language identifier is selected from the group

2   consisting of a language name and a language symbol.

1   38. The output structure of claim 36, wherein the language identifier is a language pointer.

1   39. The output structure of claim 36, wherein a first descriptor of the at least one descriptor has

2   N_1 descriptor values, wherein a second descriptor of the at least one descriptor has N_2 descriptor

3   values, and wherein N_1 is unequal to N_2.

1   40. The output structure of claim 36, wherein providing a descriptor database structure comprises

2   providing a table which includes the at least one descriptor, the at least one descriptor value for

3   each descriptor, and the language identifier for each descriptor value.

1   41. The output structure of claim 36, wherein providing a descriptor database structure

2   comprises:

3   providing a first table which includes the at least one descriptor and the at least one

4   descriptor value for each descriptor; and

5   providing a second table which includes the at least one descriptor value for each

6   descriptor and the language identifier for each descriptor value.

1   42. The output structure of claim 36, wherein providing a descriptor database structure comprises

2   providing a table having a name that includes the language identifier, wherein the table includes

3   the descriptors and the associated descriptor values which are expressed in the language, and

4   wherein the table does not include a descriptor value expressed in another language that differs

5   from the language.

1   43. The output structure of claim 36, wherein determining a user identifier includes prompting

2   the user for information from which the user identifier may be ascertained.

1   44. The output structure of claim 36, wherein identifying a preferred language comprises

2   identifying a preferred language identifier from a user database structure, said preferred language

3   identifier being used to identify the preferred language, and said user database structure

4   including:

5   a list of user identifiers, said list including the user identifier of the user; and

6   a preferred language identifier associated with each user identifier.

1   45. The output structure of claim 44, wherein the preferred language identifier is selected from

2   the group consisting of a preferred language name and a preferred language symbol.

1   46. The output structure of claim 44, wherein the preferred language identifier includes a

2   preferred language pointer.

1   47. The output structure of claim 46, wherein the preferred language pointer points to the

2   preferred language.

1   48. The output structure of claim 46, wherein the preferred language pointer points to an

2   algorithm which executes program steps that determines the preferred language.

1   49. The output structure of claim 44, wherein the process further comprises providing a

2   replacement language database structure, said replacement language database structure

3   expressing a replacement language as a function of the preferred language.

1   50. The output structure of claim 36, wherein determining at least one output descriptor and

2   associating with each output descriptor an output zone of the output medium comprises

3   providing an application database structure which includes:

4   the at least one output descriptor, wherein each output descriptor appears as a descriptor

5   within the descriptor database structure; and

6   the output zone of the output medium associated with each output descriptor.

1   51. The output structure of claim 36, wherein the output medium includes a screen display, and

2   wherein each output zone identifies a portion of the screen display.

1   52. The output structure of claim 51, wherein each output descriptor is of an output type selected

2   from the group consisting of a screen title, a prompt, a help text, an error message, an

3   instructional message, and an information message.

1   53. The output structure of claim 36, wherein the output medium includes a printed page, and

2   wherein each output zone identifies a portion of the printed page.

1   54. A computer system for generating a language-specific output structure on an output medium,

2   comprising: a processor; a memory device; an input device coupled to the processor; an output

3   device coupled to the processor; a language database structure coupled to the processor; and a

4   computer code located on the memory device,

5   wherein the output device includes the output medium,

6   wherein the processor executes the computer code,

7   wherein the language database structure includes a descriptor database structure,

8   wherein the descriptor database structure includes at least one descriptor, at least one

9   descriptor value for each descriptor such that each descriptor value is expressed in a language,

10   and a language identifier for each descriptor value such that the language identifier identifies the

11   language, and

12   wherein the computer code comprises an algorithm which includes:

13   determining a user identifier of a user;

14   identifying a preferred language based on the user identifier;

15   determining at least one output descriptor and associating with each output

16   descriptor an output zone of the output medium, wherein each output descriptor appears

17   as a descriptor within the descriptor database structure;

18   generating a descriptor value for each output descriptor, by utilizing the preferred

19   language and the descriptor database structure; and

20   transferring the descriptor value for each output descriptor to the associated output

21   zone of the output medium.

55. The computer system of claim 54, wherein the language identifier is selected from the group consisting of a language name and a language symbol.

56. The computer system of claim 54, wherein the language identifier is a language pointer.

57. The computer system of claim 54, wherein a first descriptor of the at least one descriptor has N_1 descriptor values, wherein a second descriptor of the at least one descriptor has N_2 descriptor values, and wherein N_1 is unequal to N_2.

58. The computer system of claim 54, wherein the at least one descriptor, the at least one descriptor value for each descriptor, and the language identifier for each descriptor value are stored in a table.

59. The computer system of claim 54, wherein the at least one descriptor and the at least one descriptor value for each descriptor are stored in a first table, and wherein the at least one descriptor value for each descriptor and the language identifier for each descriptor value are stored in a second table.

60. The computer system of claim 54, wherein the descriptor database structure comprises a table having a name that includes the language identifier, wherein descriptors and associated descriptor values expressed in the language are stored in the table, and wherein the table does not include a descriptor value expressed in another language that differs from the language.

1   61. The computer system of claim 54, wherein determining a user identifier includes prompting

2   the user for information from which the user identifier may be ascertained.

1   62. The computer system of claim 54, wherein the language database structure further includes a

2   user database structure, wherein identifying a preferred language comprises identifying a

3   preferred language identifier from the user database structure, said preferred language identifier

4   being used to identify the preferred language, and said user database structure including:

5   a list of user identifiers, said list including the user identifier of the user; and

6   a preferred language identifier associated with each user identifier.

63. The computer system of claim 62, wherein the preferred language identifier is selected from

the group consisting of a preferred language name and a preferred language symbol.

64. The computer system of claim 62, wherein the preferred language identifier in the user

database structure includes a preferred language pointer.

1   65. The computer system of claim 64, wherein the preferred language pointer points to the

2   preferred language.

1   66. The computer system of claim 64, wherein the preferred language pointer points to an

2   algorithm which executes program steps that determines the preferred language.

1   67. The computer system of claim 62, wherein the language database structure further includes a

2   replacement language database structure, said replacement language database structure

3   expressing a replacement language as a function of the preferred language.

1   68. The computer system of claim 54, wherein the language database structure further includes

2   an application database structure, wherein determining at least one output descriptor and

3   associating with each output descriptor an output zone of the output medium comprises accessing

4   the application database structure, and wherein the application database structure includes:

5   the at least one output descriptor, wherein each output descriptor appears as a descriptor

6   within the descriptor database structure; and

7   the output zone of the output medium associated with each output descriptor.

1   69. The computer system of claim 54, wherein the output medium includes a screen display, and

2   wherein each output zone identifies a portion of the screen display.

1   70. The computer system of claim 69, wherein each output descriptor is of an output type

2   selected from the group consisting of a screen title, a prompt, a help text, an error message, an

3   instructional message, and an information message.

1   71. The computer system of claim 54, wherein the output medium includes a printed page, and

2   wherein each output zone identifies a portion of the printed page.

1 72. A computer program product, comprising:

2 a computer usable medium having a computer readable program code embodied therein

3 for generating a language-specific output structure on an output medium,

4 wherein the computer readable program code comprises an algorithm which utilizes a

5 language database structure,

6 wherein the language database structure includes a descriptor database structure,

7 wherein the descriptor database structure includes at least one descriptor, at least one

8 descriptor value for each descriptor such that each descriptor value is expressed in a language,

9 and a language identifier for each descriptor value such that the language identifier identifies the

10 language, and

11 wherein the algorithm includes:

12 determining a user identifier of a user;

13 identifying a preferred language based on the user identifier;

14 determining at least one output descriptor and associating with each output

15 descriptor an output zone of the output medium, wherein each output descriptor appears

16 as a descriptor within the descriptor database structure;

17 generating a descriptor value for each output descriptor, by utilizing the preferred

18 language and the descriptor database structure; and

19 transferring the descriptor value for each output descriptor to the associated output

20 zone of the output medium.

1   73. The computer program product of claim 72, wherein the language database structure further

2   includes a user database structure, wherein identifying a preferred language comprises

3   identifying a preferred language identifier from the user database structure, said preferred

4   language identifier being used to identify the preferred language, and said user database structure

5   including:

6   a list of user identifiers, said list including the user identifier of the user; and

7   a preferred language identifier associated with each user identifier.

74. The computer program product of claim 72, wherein the language database structure further

includes an application database structure, wherein determining at least one output descriptor and

associating with each output descriptor an output zone of the output medium comprises accessing

the application database structure, and wherein the application database structure includes:

        the at least one output descriptor, wherein each output descriptor appears as a descriptor

within the descriptor database structure; and

        the output zone of the output medium associated with each output descriptor.